Sheet

PTO/SB/08A (04-03)

Approved for use through 04/30/2003. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Complete if Known **Application Number** 10/536,688 Filing Date May 27, 2005 First Named Inventor Barrera et al. Art Unit Unknown Examiner Name Unknown Attorney Docket Number 11321-P059WOUS

U. S. PATENT DOCUMENTS Name of Patentee or Pages, Columns, Lines, Where Examiner Cite **Publication Date Document Number** MM-DD-YYYY Applicant of Cited Document Relevant Passages or Relevant Initials* No. Figures Appear Number-Kind Code² (# known) US- 5,374,415 Alig et al. /TN 1 12/20/1994 US- 20040029706 2 02/12/2004 Barrera et al. /TN/ üs US-US ÙS-US-US US-US-LIS US-US-TIS US-US-115

		FORE	GN PATENT DOCU	MENTS		
Examiner Initials*	Cite No.	Foreign Patent Document	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages	Γ
		Country Code ³ "Number ⁴ "Kind Code ⁵ (if known)	MM-DD-YYYY		Or Relevant Figures Appear	Ľ
			·			C
•						I
						I
					,	Γ
			1			Г

Examiner Date /Tri Nguyen/ (08/01/2007) 08/01/2007 Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. Applicant's unique citation designation number (optional). See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. Applicant is to place a check mark here if English language

Transistion is ettached.

This collection of Information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

PTO/SB/08B (04-03)
Approved for use through 04/30/2003. OMB 0851-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
o a collection of Information unless it contains a valid OMB control number.

Substitute	e for form 1449/PTO	Application Number 10/536,688 N DISCLOSURE Filing Date May 27, 2005 BY APPLICANT First Named Inventor Barrera et al. Art Unit Unknown Examiner Name Unknown	Complete if Known		
Substitut	0 10 10 11 14 01 10			Application Number	10/536,688
INFO	PRMATION	DIS	CLOSURE	Filing Date	May 27, 2005
STA	TEMENT E	BY A	PPLICANT	First Named Inventor	Barrera et al.
	Aleo ne manu ako	Application Number 10/536,688 ON DISCLOSURE Filing Date May 27, 2005 T BY APPLICANT First Named Inventor Barrera et al. Art Unit Unknown Examiner Name Unknown	Unknown		
	(Ose as many sne	10 43 III	oc ossary)	Examiner Name	Unknown
Sheet	2	of	5	Attorney Docket Number	11321-P059WOUS

			Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²
/TN	/	3	lijima, "Helical microtubules of graphitic carbon", 354 Nature (1991) pp. 56-58	
1		4	lijima et al., "Single-shell carbon nanotubes of 1nm diameter", 363 Nature (1193) pp. 603-605	
		5	Bethune et al., "cobalt-catalysed growth of carbon nanotubes with single-atomic-layer walls", 363 Nature (1993), pp. 605-607, 1993	
1		6	Barrera, "Key Methods for Developing Single-Wall Nanotube Composites" 52 J. of Mater. (Nov. 2000), pp. 38-42, 2000	
		7	Thess et al., "Crystalline Ropes of Metallic Carbon Nanotubes", 273 Science (1996), pp. 483-487, 1996	
		8	Hone et al., "Electrical and thermal transport properties of magnetically aligned single wall carbon nanotube films", 77 Appl. Phys. Lett. (2000), pp. 666-668	
		9	Yu et al., "Tensile Loading of Ropes of Single Wall Carbon Nanotubes and their Mechanical Properties", 84 Phys. Rev. Lett. (2000), pp. 5552-5555	
		10	O'Rourke, "Effects of gamma radiation on poly(methyl methacrylate)/single-wall nanotube composites", 17 J. Mater. Res. 10 (2002). pp. 2507-13	
		11	Klimov et al., "Monochromatic gamma radiation emitted by relativistic electron moving in a carbon nanotube", 226 Physics Letters A (1997), pp. 244-252	
1	/	12	Cui et al., "Atomistic simulation of radiation damage to carbon nanotube", 295 Physics Letters A (2002), pp. 55-59	

Examiner	/Tri Nguyen/ (08/01/2007)	Date	00/04/0007
Signature	•	Considered	08/01/2007

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

considered. Include copy of this form with next communication to applicant.

Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

PTO/SB/08B (04-03)

Approved for use through 04/30/2003. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
o a collection of information unless it contains a world OMB contact sure the contact of the contact of

Substitut	e for form 1449/PTO				Complete if Known
Cubonia	Application Number 10/536,688 ORMATION DISCLOSURE TEMENT BY APPLICANT Art Unit Unknown				
				Filing Date	May 27, 2005
STA	TEMENT E	RMATION DISCLOSURE Filling Date May 27, 2005 EMENT BY APPLICANT First Named Inventor Barrera et al. Art Unit Unknown First Named Inventor	Barrera et al.		
	Also as many she	n sa sta	acessend	Art Unit	Unknown
				Examiner Name	Unknown
Sheet	3	of	5	Attorney Docket Number	11321-P059WOUS

Eva	miner	Cite	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of	
Examiner Cite No.1			the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ³
	/TN/	13	Salonen et al., "Ion-irradiation-induced defects in bundles of carbon nanotubes" 193 Nuclear Instruments and Method in Physics Research B, (2002), pp. 603-608	
	1	14	Ye et al., "Hydrogen adsorption and cohesive energy of single-walled carbon nanotubes" 74 Appl. Phys. Lett. 16, (1999), pp. 2307-2309	
		15	Wilson et al. (Eds.), Shielding Strategies for Human Space Exploration, NASA Conference publication 3360 (1997), pp. 17-28	
		16	Liu et al., "Fullerene Pipes", 280 Science (1998), pp. 1253-1256	
		17	Bahr et al., "Functionalization of Carbon Nanotubes by Electrochemical Reduction of Aryl Diazonium Salts: A Bucky Paper Electrode", 123 J. Am. Chem. Soc. (2001), pp. 6536-6542	
		18	Holzinger et al., "Sidewall Functionalization of Carbon Nanotubes" 40 Angew. Chem. Int. Ed. 21 (2001), pp. 4002-4005	
		19	Khabashesku et al., "Fluorination of single-wall carbon nanotubes and subsequent derivatization reactions", 35 Acc. Chem. Res. (2002), pp. 1087-1095	
		20	Mickelson et al., "Solvation of Fluorinated Single-Wall Carbon Nanotubes in Alcohol Solvents", 103 J. Phys. Chem. B (1999), pp. 4318-4322	
		21	Boul et al., "Reversible sidewall functionalization of buckytubes" 310 Chem. Phys. Lett. (1999), pp. 367-372	
J	/	22	Ebbesen, "Carbon Nanotubes", 24 Annu. Rev. Mater. Sci., (1994), pp. 235-264	

Examiner	/Tri Nguyen/ (08/01/2007)	Date	
Signature	/ 111 Nguyeti/ (00/01/2007)	Considered	08/01/2007

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

considered. Include copy of this form with next communication to applicant.

Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete his form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

PTO/SB/08B (04-03)
Approved for use through 04/30/2003. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Substitut	e for form 1449/PTO				Complete if Known	
00000101				Application Number	10/536,688	
INFO	DRMATION	I DIS	CLOSURE	Filing Date	May 27, 2005	
STA	TEMENT I	BY A	PPLICANT	First Named Inventor Barrera et al.		
	(Use as many sh	00to 00 B	ocossand	Art Unit	Unknown	
	(CSO as many an	OU 63 11	acessary)	Examiner Name	Unknown	
Sheet	4	of	5	Attorney Docket Number	11321-P059WOUS	

		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials* Cite No.1 /TN/ 23		Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²
		Vander Wal et al., "Flame synethesis of Fe catalyzed single-wall carbon nanotubes and Ni catalyzed nanofibers:", 349 Chem. Phys. Lett. (2001), pp. 178-184	
	24	Hafner et al., "Catalytic growth of single-wall carbon nanotubes from metal particles", 296 Chem. Phys. Lett. (1998), pp. 195-202	
	25	Cheng et al., "Bulk morphology and diameter distribution of single-walled carbon nanotubes" 289 Chem. Phys. Lett. (1998),pp. 602-610	
	26	Nikolaev et al., "Gas-phase catalytic growth of single-walled carbon nanotubes from carbon monoxide", 313 Chem. Phys. Lett. (1999), pp. 91-97	
	27	O'Connell et al., "Band Gap Fluorescence from Individual Single-Walled Carbon Nanotubes", 297 Science (2002), pp. 593-596	
	28	Bachilo et al., "Structure-Assigned Optical Spectra of Single-Walled Carbon Nanotubes" 298 Science (2002), pp. 2361-2366	
	29	Strano et al., "Electronic Structure Control of Single-Walled Carbon Nanotube Functionalization" 301 Science (2003), pp. 1519-1522	
	30	Chiang et al., "Purification and Characterization of Single-Wall Carbon Nanotubes", 105 J. Phys. Chem. B (2001), pp. 1157-1161	
	31	Chiang et al., "Purification and Characterization of Single-Wall Carbon Nanotubes Obtained from the Gas-Phase", 105 J. Phys. Chem. B (2001), pp. 8297-8301	
V	32	Gu et al., "Cutting Single-Wall Carbon Nanotubes through Fluorination", 2 Nano Lett. 9, (2002), pp. 1009-1013	

	والمناب		
Examiner	/Tri Nauven/ (08/01/2007)	Date	
Signature	/ 111 Nguyen/ (00/01/2007)	Considered	08/01/2007

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

PTO/SB/08B (04-03)
Approved for use through 04/30/2003. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
p a collection of information unless it contains a valid OMB control number.

Subatitude	FORMATION DISCLOSURE ATEMENT BY APPLICANT		Complete if Known		
Substitute	na iain i-air ic	,		Application Number	10/536,688
INFO	RMATIO	N DIS	CLOSURE	Filing Date	May 27, 2005
STA	TEMENT	BY A	PPLICANT	First Named Inventor	Barrera et al.
	Also so	A 4	·	Art Unit	Unknown
	(Use as many s	neers es m	ecessary)	Examiner Name	Unknown
Sheet	5	of	5	Attorney Docket Number	11321-P059WOUS

Examiner nitials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²
/TN/	33	Chen et al., "Solution-Properties of Single-Walled Carbon Nanotubes", 282 Science (1998), pp. 95-98	
	34	Mickelson et al., "Fluorination of single-wall carbon nanotubes", 296 Chem. Phys. Lett. (1998), pp. 188-194	
	35	Bahr et al., "Highly Functionalized Carbon nanotubes Using In Situ generated Diazonium Compounds", 13 Chem. Mater. (2001), pp. 3823-3824	
	36	Stevens et al., "Sidewall Amino-Functionalization of Single-Walled Carbon Nanotubes through Fluorination", 3 Nano Lett. 3 (2003), pp. 331-336	
	37	Pekker et al., "Hydrogenation of Carbon Nanotubes and Graphite in Liquid Ammonia", 105 J. Phys. Chem. B (2001), pp. 7938-43	
	38	Rinzler et al, "Large-scale purification of single-wall carbon nanotubes: process, product, and characterization", 67 Appl. Phys. A (1998), pp. 29-37	
	39	Bronikowski et al., "Gas-phase production fo carbon single-walled nanotubes from carbon monoxide via the HiPco process:", 19 J. Vac. Sci. Technol. 4 (2001), pp. 1800-1805	
	40	Chiang et al., "Covalent Sidewall Functionalization of Single-Wall Carbon Nanotubes", proc. of 6th Appl. Diamond Conf. (2001), pp. 687-693	
$\overline{\mathbf{V}}$	41	Cooper et al., "Distribution and alignment of carbon nanotubes and nanofibrils in a polymer matrix", 62 Composites Sci. & Technol. (2002), pp. 1105-12	

Examiner		Date	Ì
	/Tri Nauven/ (08/01/2007)	C!44	08/01/2007
Signature	/ 111 Nguyen/ (00/01/2007)	Considered	08/01/2007

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.